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LECTURES.

A CLINICAL LECTURE ON CATHETERISM VERSUS URETHROTOMY.[1]

DELIVERED AT BELLEVUE HOSPITAL BY J. W. S. GOULEY, M. D.,

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GENTLEMEN, — Before alluding to the subject suggested by the case now before you, I shall make a physical examination of the patient, who has a stricture of the urethra. He is twenty-seven years of age, and says that it is ten years since he had the attack of gonorrhœa from which the stricture resulted. On attempting to pass a *bougie à boule* of rather large size, it is found arrested after it has been introduced for some distance into the urethra, and measurement shows that the point of obstruction is four and seven eighths inches within the meatus. The next attempt is made with a smaller instrument, number 4, which passes in for a distance of five and a quarter inches. This difference shows that there exists a long stricture, probably tortuous and eccentric in its character; and I will now proceed to tell you the way in which I deal with these narrow eccentric strictures about the sinus of the bulb.

Formerly such strictures, into which small flexible bougies could not be introduced, were regarded as impassable, and the surgeon usually resorted to external urethrotomy, more rarely to internal urethrotomy. The method employed was somewhat as follows: As it was impossible to dilate the stricture with the very small instruments that could be made to pass it, a bougie of minute calibre was inserted and tied in position for twelve, twenty-four, or even forty-eight hours. When the urine was observed to trickle alongside of it it was withdrawn, and a somewhat larger one was passed and secured in the same way. In this manner the stricture became sufficiently dilated in the course of three, four, or five days to admit of the introduction of a small urethrotome. When the stricture could not be passed by even such filiform bougies it was found necessary to perform external urethrotomy. Ure-

[1] Reported for the Boston Medical and Surgical Journal.

throtomy is not a very serious operation, and is not ordinarily attended by any great mortality. In well-selected cases the latter does not exceed five per cent., and in all cases, including both the favorable and unfavorable, it does not exceed twelve and a half per cent., in this country at least. It is, of course, a highly beneficial operation, but a mortality of even five per cent. shows that it is one which is attended with a certain amount of danger; and it would be a great boon if this danger could be avoided, and yet equally good results obtained in some other manner.

This I think has been afforded the profession in the method of catheterism which I devised about the year 1864, and it has certainly made a wonderful change in treatment, at least as far as concerns my own practice. Had it not fortunately occurred to me I should still be performing internal and external urethrotomy, and I am sure that during the last twelve years I should have resorted to one or the other operation in more than two hundred cases of stricture which have been successfully treated in this way. During that period I have used catheterism with the filiform whalebone conductor and tunneled sound in at least three hundred cases, and I do not hesitate to say that I think the time is not far distant when these cutting operations will be reserved for only the very worst cases, and consequently be but rarely done at all.

Now let me explain this method of catheterism. An essential point about it is the filamentous guide. This does not take oil or vaseline very well, and so I am in the habit of anointing the urethra instead. This is done by injecting oil into the canal, a procedure for which I do not claim any originality at all, as it was employed at least thirty-five years ago. It has the double advantage of distending as well as of lubricating the urethra. The filamentous whalebone bougie may either have a slight twist, as preferred by some, or be bent near the extremity, as suggested by Benjamin Bell. The first step in the operation is to introduce the guide as far as the point of stricture, and then the oil is to be injected into the urethra. This having been done, the guide is used as an explorer, with which the operator endeavors to find the orifice of the stricture (which, as I said, is usually eccentric), and so he carefully moves it to and fro and up and down until this is accomplished. It requires some little skill and experience to use the guide successfully. While you are endeavoring to find the orifice the end comes in contact with the sides of the canal, and also touches bottom, so to speak, at the point of stricture. Then, presently, you find that you do not touch bottom; but still you may not have gotten into the bladder. Instead of passing through the stricture, the end of the instrument may simply have entered the orifice of the duct of one of Cowper's glands. If this is the case you have only to withdraw it partially and try again,

and if you should a second time meet with an obstruction it may be that the guide has now slipped into an enlarged lacuna. The next obstruction may be caused by the utriculus if the point of the instrument is in the median line and directed below, or by the orifice of one of the ejaculatory ducts. Further on you may meet with yet another difficulty by getting it into an enlarged prostatic follicle, and then you may finally reach the bladder. All this shows that such catheterism is by no means simple or easy; and I would have you understand that it is essential that it should be performed with the lightest possible hand and the greatest caution, for otherwise the urethra may be very seriously injured. Perhaps I ought to mention two additional causes of obstruction still, which may interfere with the passage of the guide, namely, the *lacuna magna* on the upper surface of the *fossa navicularis*, and the enlarged lacunæ in the ampulla behind the stricture.

Now let me endeavor to put these precepts into practice in the case before us. You observe that the oil gushes out in considerable quantities just after it has been injected into the urethra. This shows that the stricture is a very narrow one, and thus affords an important point in diagnosis. When I endeavor to pass the filamentous guide through the orifice of the stricture I at once meet with one of the obstructions to which I have called your attention; but having withdrawn it for a short distance I make a second attempt, and now succeed in entering the bladder without any difficulty.

The next step is to introduce one of my tunneled sounds along the guide, and I do not dare to make use of a large instrument here for fear of doing injury. The one that I select is number 3, the point of which is about the size of number 1 of the ordinary sounds, and you observe how it is curved, and its characteristic feature the little canal ending in a groove into which the whalebone guide fits. The latter, of course, amounts to nothing as a means of treatment unless it is supplemented by the sound. With the tunneled sound there is little danger of doing any injury; but if the attempt to dilate such strictures as these be made with ordinary sounds false routes will surely result. Now, supporting it with the left hand I pass it gently down into the urethra, and find it arrested at the point of stricture. With a little manipulation, however (while at the same time I pull upon the whalebone guide), the point of the sound enters the orifice, and the first step of the operation is accomplished. This instrument dilates the stricture a little, and so I now withdraw it, during the withdrawal holding on to the guide, so as to retain it in position.

The next step is to introduce a number 4 sound, which is done in the same way, and has the effect of dilating the stricture a little more. I now try a number 6. There is no blood as yet, but this sound is grasped very tightly indeed by the stricture. Next I introduce a num-

ber 7; but as I do not happen to have at hand a larger tunneled sound, I shall be obliged afterward to employ the ordinary ones. I therefore now try a number 7 sound of the common variety, which is a little larger at the point than the same number of the tunneled instruments; but you will observe that I still retain the guide in the urethra. It does not at first pass readily; but by coming round to the other side of the patient I find that I am enabled to slip it in quite easily. Not infrequently a slight change in the position of the operator is of great assistance in the passage of a sound or catheter.

The passage of a number 8 sound is attended with the first blood, and the hæmorrhage which you observe indicates that divulsion has taken place. This means that numerous rents have been made in the mucous membrane as well as in the submucous tissue at the point of stricture, and when divulsion has once occurred, the passage of large-sized sounds becomes easy. In these cases of long duration (and you will remember that in the present instance the stricture is of ten years' standing) divulsion is almost invariably produced by such catheterism as has been practiced here. You perceive that I can now pass a number 12 with the greatest facility, and that when I withdraw it I also remove the guide, which will no longer be of any service. Next a number 14 sound is introduced, and finally a number 16, which completes the sitting of to-day. Here we have had a fair operation of divulsion, and yet have not employed any divulsor proper. In this case it will be entirely unnecessary to enlarge the size of the meatus by cutting.

As I said before, I have now performed this catheterism in more than three hundred cases of stricture, at one, two, or three sittings, according to circumstances, in each. The total mortality (including all the worst cases) has been something like two per cent., and I should like to know if equally favorable results have been obtained by any other method. I attach very great importance to the passage of a large sound once a week, after the divulsion, for at least one year, and in many cases for an indefinite time. It is true that patients are very apt to have a chill after this operation, but it is rarely followed by any severe symptoms, and a good dose of quinine is all that they usually require. If this man were to remain in the hospital I should probably give him a few doses of three or four minims of Fleming's tincture of aconite in addition; but as he is an out-patient I shall let him go his way, and only ask him to return and let us see him this day week.

In the second case which I bring before you, divulsion was also practiced. At the first sitting I began with a number 2 sound, and before it was over succeeded in passing a number 16 with ease. It was followed by a chill, but he did not have any after the second sitting. To-day, just four weeks from the commencement of the treatment, I am

able to pass a number 18 sound, which is ten and a half millimetres in diameter. This patient has an unusually flabby urethra.

In the third case, which is that of an Italian pretty well advanced in life, I did not find it necessary to make use of the filamentous guide, though the stricture was a rather narrow one. I began with a number 3 sound here, and this is now the third sitting. The first sound that I use to-day is a number 12, and afterwards I pass a 14, 15, and 16 in succession. This is a very tough and indurated urethra; but I have here been enabled to obtain sufficient dilatation without practicing divulsion. The passage of these sounds, no doubt, occasions the man a considerable amount of pain, but I do not think he suffers much, or else he would be more demonstrative. Our first patient to-day, I think, suffered much more, but he bore it bravely. In the present case I enlarge the external orifice with a bistoury while the sound is still in the urethra. The man is doing very well.

The fourth patient is also an Italian, but a much younger man, as you perceive, than the last one. I began here also with a number 3 sound, and this is now the fourth sitting. He has had no chill since the first one, and to-day I commence with a number 15 instrument, which passes with the greatest ease. You observe that this patient has an unusually large penis, but it does not follow by any means that the urethra is also large in proportion. I regard that as altogether a fanciful idea, and do not believe that there is any relation whatever between the size of the penis and that of the urethra. In fact, I have frequently seen men in whom the penis was very small, and yet whose urethræ were extraordinarily large, and others again in which this relation was reversed.

A CASE OF FEIGNED INSANITY.[1]

BY WALTER CHANNING, M. D.

AUTHORITIES are agreed that it is harder to feign insanity than for experts to detect the imposture. There are, however, exceptions to this rule. Asylum physicians may be deceived, and where there is no ground to suspect simulating, malingerers may be admitted to asylums. Supposing that a man presents himself for admittance to an insane asylum, the certificates of physicians, the evidence of friends, and the *apparent* condition of the patient are all the data the physician has. On these the patient is admitted. The physician cannot say, "Well, I think the patient is insane from what you say, but I am not sure, and as I may be obliged to appear in court and show cause why the prisoner should be detained, I had rather observe him for a few days; therefore, if you will take rooms in the town I will visit him daily for a week or

[1] Read before the Suffolk District Medical Society, January 26, 1878.

more, and *then* if I find him insane I will admit him." That would be a chilling reception for a woman with a wild, violent, and raving husband, or a mother with a suicidal daughter. The very fact that a person's friends bring him to the asylum is the strongest presumptive evidence of his insanity; for who will feign to get *into* an asylum? This question may be answered by saying, No one without a motive; and usually only indicted criminals seeking to avoid punishment, and convicts wishing to leave the rigid and monotonous surroundings of a prison for the easier life of an asylum, will have such a motive.

The case which I am about very briefly to relate, though not difficult of diagnosis on a sufficient examination, was one possessing features calculated to make the impression of insanity on the public mind. All the medical witnesses for the defense were persons of only limited acquaintance with insanity. Had this case applied at an asylum with the certificates of two of these physicians and the testimony of friends, without doubt it would have been at once admitted.

During a connection of over two years with a criminal asylum I was led to study closely the characters of the criminal insane. The asylum being near the prison we occasionally received feigners, the law obliging us to admit all persons transferred to us; the number was, however, extremely small. The attempts at feigning were made on the prison physicians and other officials, who, generally having but a slight knowledge of insanity, were easily imposed upon. Such clumsy attempts were possible of detection at the asylum, and the subjects were in due course of time returned to prison as not insane. Several feigners of epilepsy were, among others, sent to us. These cases all required somewhat extended observation, as the insanity of criminals is often far below the surface, and much more difficult to discover and definitely fasten on than in ordinary cases.

It is doubtful whether William Barr, the subject of this sketch, feigned in the first place in order to be transferred to the asylum. In all prisons there is a class of incorrigibles who constantly chafe against discipline, and Barr was one of the worst of this kind. Becoming unmanageable in the prison he was sent to the asylum for the relief of the officials. The first we hear of him is at Clinton State Prison, at Dannemora, N. Y., to which he was sentenced in 1871 for ten years for highway robbery, and from which, after remaining nearly a year, he was transferred to the State Asylum for Insane Criminals at Auburn. Here he remained nearly two years, the last seven months of this period being under my observation. From the asylum he was sent to the Auburn State Prison, staying nearly six months, when he again entered the asylum, remaining nine days. He then returned to the prison again, where he stayed until some time after the homicide which he there committed. During this period he has a history of violence and

intractability, but all the very conflicting evidence given upon the trial furnishes no clear proof of insanity.

In February, 1877, Barr murdered a prison-keeper named Casler, who, it is stated, had borne an unusually good reputation as a keeper, and beyond reporting convicts for bad behavior had never had any trouble with them. The circumstances of the murder were substantially as follows: —

Barr was one of a gang of convicts shoveling snow off the sidewalk in front of the prison. The gang was in charge of Casler. Whenever a woman went by Barr would stop and smile at her; he would also neglect his work and walk up and down the sidewalk. He began after a while to throw snow in the gutter, which the keeper told him not to do; he talked to another convict, which the keeper also told him not to do; finally, the keeper told Barr that if he did not stop he should send him in, but Barr said he would go when the rest did. The keeper wrote a note, which Barr probably supposed concerned him, and sent it in by another convict, and then turned his back to Barr, and began talking to some passer-by. Barr ran up and struck him with the edge of his iron shovel on the side of the face. This blow knocked the keeper over. Barr followed it up with three or four other blows and kicks, until another convict told him that he would kill him (Barr) if he did not stop. This threat made him desist, and he was taken into the prison. The keeper expired in a few moments.

The murder created the most intense excitement in the town, not only because of the brutal manner of the killing, but because the murderer had twice been an inmate of the Asylum for Insane Criminals. The latter fact was noised abroad in the papers; the asylum authorities were taken to task; they were guilty of the murder; the convict was irresponsible, etc. The feeling became generally prevalent that Barr was insane, and public judgment was biased to a most unreasoning extent by prejudice. Keepers in the prison and others expressed their opinions the more strongly as they were ignorant of the real nature of insanity.

Barr was kept in the prison until the latter part of June or the first of July following, and then transferred to the county jail. He was indicted for murder, and in October last was arraigned for trial. He made no reply when asked the usual questions, and his counsel interposed the plea of insanity as his sole defense. Under the laws of New York, when a person is under indictment for murder and other crimes, if there be a doubt as to the sanity of the prisoner the court has power to appoint a commission in lunacy to examine into the mental condition of such prisoner. Such a commission was issued in the Barr case, composed of Dr. John P. Gray, superintendent of the State Lunatic Asylum at Utica, Dr. John B. Chapin, superintendent of the Williard In-

sane Asylum, and a local physician. After an extended investigation they found that Barr was sane both at the time of the homicide and when they examined him. It would appear at first sight that the finding of a commission of experts might so definitely settle the question of insanity that it could no longer be an element in the defense. If the prisoner is insane he may be remanded at once by order of the court to an asylum. By so doing the expense of a trial is avoided. When, however, a commission finds the prisoner sane the defense of insanity can still be used, and the finding of a commission, beyond a certain moral weight it bears, is of no service.

Barr's counsel accordingly used insanity as his sole defense. Portions of the evidence taken before the commission were read simply as the testimony of certain persons. The trial lasted a week. The jury stood at first nine for a verdict of guilty and three for acquittal on the ground of insanity; a verdict of murder in the second degree was, however, finally brought in, and Barr was sentenced to prison for life. He received his sentence with stolid indifference. On being told that he had got off very lightly he said he did not care. At the prison, when received there from court, he was asked why he did n't recognize some of his old keepers; he replied that he was n't recognizing any one *then.*

Reviewing the evidence given in this case, it will first be found that the reasons of the physician at the state prison at Dannemora for transferring Barr to the asylum were contradictory. He makes a diagnosis of one form of insanity, acute mania of several months' duration, and then says he was melancholic. He shows that Barr was insubordinate, violent, and noisy, but considering his low, brutal nature these acts are not necessarily indicative of insanity. Maudsley says,[1] "It will not be sufficient to make it the positive criterion of insanity that a man is unable to restrain his actions, for there are some criminals who by reason of a bad organization cannot control their acts." Barr's whole history shows that he was possessed of this bad organization. He was afflicted with a cerebral hyperæsthesia, and was in a state of constant nervous erethism, ready to explode at any moment.

The first year and a half of Barr's residence at the asylum is a blank; we know only that he was still vicious and insubordinate. During the seven months of my observation of him there I always found a cause, however trivial, for his bad behavior. Generally when his passion subsided he would acknowledge that he had done wrong, and promise to be good, and actually did better for a few days. Among the patients he had found several old pals. These he often incited to mischief, and endeavored to make them join with him in fights and attempts at escape, thereby showing a power or desire of combining which in the lunatic

[1] Physiology and Pathology of the Mind, page 409.

would almost never be found. The necessary lack of severe discipline at the asylum, the association with the weak and sick insane, and all the surroundings, so different from a prison, did much to develop the ungovernable elements in Barr's character. He learned his vast power of evil and freely exercised it, considering himself irresponsible because a lunatic.

Leaving the asylum and going to the prison his conduct does not improve; he is called a "luny," and his behavior regarded as that of an insane man. He whistles on Sunday in the chapel, but is not punished, as the warden says he is not "all right." (But only a short time before this a convict had done the same thing, and said that the devil was in his cell, and had been sent to the asylum. There he confessed that some feigners who had previously been in the asylum told him how to "play crazy." Barr knew these same persons, and without doubt also knew this recipe for insanity.) Finally, after threats to kill several persons (he said he would get over to the asylum again if he had to kill a keeper) and various acts of insubordination, the prison physician certifies that he is the victim of melancholia and paroxysmal mania, and again he enters the asylum. There no vestige of either can be discovered; he is bright, perfectly well, and tractable until some trifle makes him angry. He thinks, however, himself, that he is insane, and says his head is not right; but the insane do not think themselves insane.

Again he goes to prison, behaves somewhat better, and for the two months before the homicide the warden hears nothing of his insanity.

The circumstances of the murder were horrible, but still more terrible and unjustifiable murders have been committed by sane men. The keeper had made Barr angry, and it was natural that a man with his temper should raise whatever he might have in his hand and strike with it. More might be said on this point, but it seems unnecessary. Barr gives his reason for having struck the keeper, saying that he would not be imposed on, and the keeper was imposing on him.

After the homicide he no doubt has the old feeling that he is regarded as insane, and he is still violent and troublesome when irritated. He now speaks occasionally of devils. At the county jail he is at first troublesome, but on being punished his manifestations of violence cease. This change alone is strong evidence of sanity. A person violent enough to be yelling and whistling sufficiently loud to disturb the neighborhood would be affected with violent mania, and punishing such a person would have no other effect than aggravating the symptoms. As the time of the trial draws near he becomes quiet, and knows and talks with almost no one. If he does talk it is to speak of devils. The idea of seeing spirits and devils is one that generally occurs first to ignorant people; as Snell says,[1] "uneducated people have the idea

[1] Bucknill and Tuke, page 339.

that an evil spirit, as it were, takes possession of an insane man, and drives out his being with altogether new and perverted elements." Barr seems to realize that his knowledge is too limited to allow him to feign the violent forms of insanity, and he therefore fixes on the stupid, quiet, non-committal form. "The easiest mode of deception is to feign imbecility."[1] "The feigner generally mixes the appearances of several forms with each other, so that an unnatural representation of disease is offered. He usually overdoes the phenomena of mental disturbance. He believes that all must be reversed; instead of giving expression to delirious ideas he talks absurdly, and conducts himself as if in insanity the greater part of the intelligence and of the memory must be disturbed."[2] Barr is interested in his trial, prepares himself daily for it, and is impatient when it does not begin. Here he is showing interest, attention, and muscular activity; but he gets into the court-room and is too demented to answer the simplest questions, or obey even the direction to stand up. At the same time he keeps his body in perpetual motion, laughs and mutters to himself, disturbs the order of the court, and creates a scene by a tremendous struggle with his keepers; here again he launches into mania.

The following extract from a conversation of Barr with the commission[3] is very striking, resembling in many respects reported conversations with other feigners: —

Q. How old are you? *A.* I don't know, sir. *Q.* Were you born in this country? *A.* I don't know. *Q.* What is your name? *A.* Barr. *Q.* What is your first name? *A.* William. *Q.* Your brother's name? *A.* I ain't got no brother. *Q.* What was your mother's name? *A.* I don't know, sir. *Q.* You say you don't know where you were born? *A.* No, sir. *Q.* Do you mean to say that? *A.* No, sir. *Q.* Where were you brought up? *A.* The devil is all the time talking to me. *Q.* Do you know Captain A (a keeper at the prison)? *A.* No. *Q.* Do you know Captain B? *A.* I don't know any of them at all. *Q.* Do you know Captain C? *A.* No. *Q.* Do you know Captain D? *A.* Where? *Q.* Do you know Captain E? *A.* No, sir. *Q.* Do you know your brother's name now? *A.* You know the devil is all the time talking to me about. Could hear him well enough, and I don't want to hear. That is the matter. *Q.* You say the devils are all the time talking to you? *A.* Yes, sir; you know. *Q.* What do they say? *A.* They won't let me rest. *Q.* Tell this gentlemen what they say, and he will write it down. *A.* I don't want it written down. *Q.* Can you read or write? *A.* No, sir. *Q.* When did you forget to read and write? *A.* You will all write too. On another occasion he was again asked where he was born, and replied, "I guess so; what do you want to talk to me for?" The question was repeated, and he said, "What are you talking to me for? There are seven hundred thousand devils flying around all the time; you know what they say."

"Men feigning insanity pretend that they cannot read or write or count ten correctly, or tell the day of the week, or how many children they have; they answer every question wrongly, which any real lunatic, who could be made to understand the question and to answer it at all, would certainly answer right."[4]

[1] Griesinger, page 121.
[2] Griesinger, page 120.
[3] Taken from the evidence before the commission.
[4] Bucknill and Tuke, page 338.

Barr says that he cannot read or write, and with the exception of two questions answers all wrong. Some of his answers are responsive, but many irrelevant and absurd. He knows his own name, but neither his father's nor his mother's. When asked his brother's name he is afraid, no doubt, that his brother may be found, and he says "I ain't got no brother." When asked if he knows certain persons he gives incorrect and different answers. His replies are nearly all in the negative, as if he had resolved to respond in that way. He also tries to drag in devils in his irrelevant answers, but he shows no originality in so doing, always repeating almost precisely the same words. He merely says that he sees or hears devils, but can go no further, though especially interrogated to do so. In true mania the lunatic under similar circumstances would rattle on with the most perfect volubility, soon changing to other subjects probably, if the attack were acute; if chronic, talking rationally and connectedly of his delusions, and even in many cases answering other questions properly. Barr's apparent delusions and hallucinations cannot, therefore, for a moment be dignified with the name of mania, and his absurd, almost always false, but often responsive answers, instead of showing the mental weakness, as loss of memory and attention, etc., of dementia, indicate a consistent and well-sustained effort willfully and wrongly to answer all questions. When he answers two questions correctly, giving his first and last names, he is evidently surprised into so doing. Barr in court presents the picture, to a limited extent, of advanced dementia and violent mania, incompatible, of course, in themselves. As expert testimony is given, showing the inconsistency of his actions, he changes according to what has been said. He has never looked any one in the eye, but on hearing that real lunatics do so he does the next day. Though too stupid to recognize any one, he eyes persons he has known very sharply, doing this when he supposes himself unobserved. If demented, his circulation would be sluggish, his hands cold, etc.; if maniacal, more active symptoms, slightly quicker pulse, loss of flesh and sleep, would be present; but his general health is good, his weight normal, and he sleeps well. The latter fact is of special importance as still further excluding mania.

But the other side of the picture is seen most distinctly when Barr is in his cell at night. Here the most plain, positive, and convincing proofs of Barr's feigning are brought to light. The poor lunatic, too demented to know his father's name, his own age, where he was born, etc., or to read and write, or to understand what is said to him, or to recognize one person out of many he has known, converses with the convict in the next cell, an old friend, after the other prisoners are asleep. Sometimes this conversation is prolonged until he tells the other "Shut up; I must go to sleep." Barr borrows papers of him, which he reads, and tobacco and cigars, which he also uses. The other

convict writes him a note, and he replies, calling him by his right name and signing his own. He finds out that the other has "told on him," and he is angry. In these and other ways he is the same old Barr, interested in what is going on, enjoying the luxuries of life, at times irritable, but perfectly rational and true to his own nature.

A closer analysis of the facts in this case would still further show wherein Barr endeavored to simulate, but a desire to be brief has led me to omit many details.

The future history of Barr will be interesting. With his inherited bad organization, amounting almost to the insane temperament, and the environment of a prison so monotonous and depressing, it will not be strange if mental instability ends in decided impairment, and the subject of this sketch terminates his days in a lunatic asylum.

FRACTURE OF THE LEG TREATED BY A NEW METHOD OF EXTENSION.[1]

BY WILLIAM D. ROBERTSON, M. D., STANSTEAD, CANADA,

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FRACTURE of the leg with riding of one fragment is a well-recognized form of fracture. The difficulties met in such a fracture need no mention here, nor do the methods proposed to overcome them. It would be impossible to canvass the literature of the subject, which is extensive and lies outside of the smaller English text-books. Hamilton, in his Fractures and Dislocations, gives the fullest account of recorded appliances, to which the reader is referred for comparison with the apparatus to be mentioned.

The case occurred in the service of Dr. Charles D. Homans and Dr. W. C. B. Fifield. By the kindness of these gentlemen I was allowed to apply the dressing to be described, and the favorable progress of the case seemed to warrant its continuance throughout the treatment, and the perfect result its presentation to the consideration of the society. The patient, a muscular laborer, entered the Boston City Hospital, giving the following history: While he was leaping from a horse-car moving at full speed, having projected his leg forwards to receive the weight of his body, his foot, meeting with an uneven surface upon the pavement, turned under him, and he was precipitated to the ground. The following injury corroborated his history of the accident: Both bones were broken in the lower third of the leg at about four inches from the malleoli, the tibia from before backwards and from above downwards, the lower fragment lying upon the upper like a wedge with the point

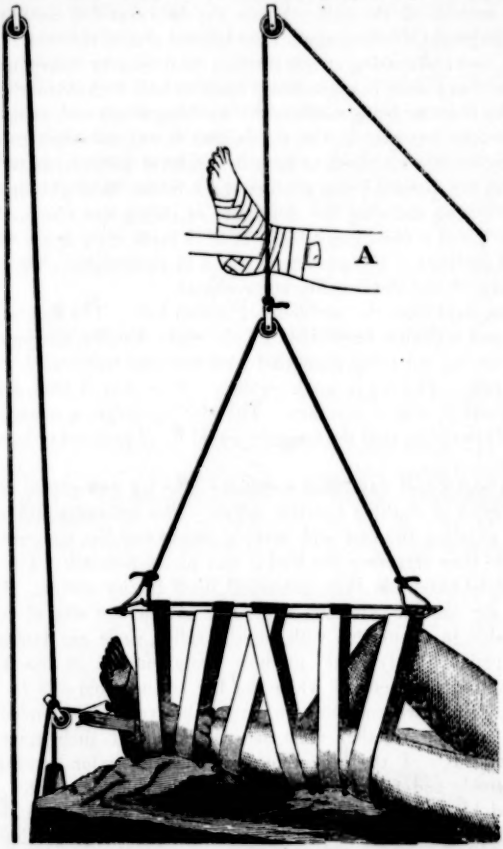
[1] Read before the Suffolk District Medical Society, December 29, 1877.

upwards, producing the deformity known as riding. The fibula was broken at the corresponding place. The foot was drawn upwards and backwards by the muscles attached to the tendo Achillis. There was free lateral mobility at the seat of the fracture, antero-posterior mobility being checked by the overlapping of the fragments and the contraction of the muscles of the calf. When the heel was left unsupported the lower fragment tilted up against the bruised skin of the shin. By grasping the foot and making steady traction the deformity was reduced. The leg was then placed in the ordinary fracture box, with side walls and foot-rest, the member being confined by webbing straps and pads of cotton. The patient was sent to the wards, and it was necessary to place the fracture box upon a plank to keep it in a level position, as it overhung the bed, the patient being six feet three inches in height in stockings. The following morning the deformity of riding was observed to have returned, and several large bullæ to have made their appearance at the seat of fracture. The patient passed a restless night. The deformity was reduced and the fracture box replaced.

Three days after the accident: Position bad. The foot sags downwards and is drawn backwards by the tendo Achillis, adequate support below the leg not being permitted from extreme tenderness. The fragments ride. The leg is much swollen. The skin is thin, tender, and ecchymotic at seat of fracture. The visiting surgeon remarked on his visit this morning that the fracture would in all probability become compound.

Four and a half days after accident: The leg was placed to-day in a modification of Smith's anterior splint. The deformity still remained, but by grasping the foot and making steady traction outwards and at the same time elevating the heel it was nicely reduced. The question of artificial extension then presented itself to the writer. The usual fixture for counter-extension at the foot of the bed was of course impracticable in connection with Smith's splint, since any lateral motion of the patient's body would produce lateral motion in the fragments, the foot being stationary while the leg swung from side to side. It was plain that two conditions must be observed to accomplish natural extension: the traction must be constant, and such traction must be in the axis of the leg; therefore the pulley for extension must swing freely and follow every motion of the Smith's splint. This was obtained by carrying a line, the two ends of which were secured to the floor, over a second pulley fixed in the ceiling. (Vide engraving.) By fixing the pulley upon the inner line at a point which would insure traction in the axis of the leg, the inner line was drawn out of its perpendicular towards the foot by the weight attached to the line running from it over the pulley to the foot, thereby allowing sidewise swinging motion, lengthwise movement being provided for by the ad-

vance and retreat of the weight supplying traction. Wide pieces of strapping (plaster) were applied to the sides of the foot and leg as high as the seat of fracture. A snug, soft bandage was applied from the toes upwards to the point of fracture, each fold as it lay over the plaster being pinned to it to reinforce its adhesive properties. The strips of



plaster were tied below the foot and spread by a wooden yoke, to keep the pressure from the sides of the foot. Traction now being slightly upwards as well as outwards, very slight support from the lower strap of the Smith's splint served to keep the foot up in proper position and to relieve the tendo Achillis of unfavorable pressure, the straps passing

below the leg being well padded with soft cotton. The next morning after this was applied the patient expressed himself as having passed the most comfortable night since his accident. There was no riding of the fragments. After twenty-four hours the ten-pound weight was omitted, and one of half that amount substituted and continued throughout the treatment. Four days after its application the skin lost its blush and tender character, and the sore heel — that bugbear of surgery in broken legs — disappeared. Good union was pronounced in four weeks from the time of accident, and the leg was placed in a stiff (silicate of soda) dressing. A week afterwards this was removed and a new one reapplied. A week after this the patient was discharged, well, with no riding of fragments, no perceptible shortening, indeed no deformity of the leg other than the thickening of the bone usually observed in fractures of large bones.

Division of the tendo Achillis by its distinguished inventor, Laugier, has been sometimes successful, at other times useless. Malgaigne's spear recorded many brilliant cases, but at last some unfortunate ones, with periostitis, pyæmia, and death; so that perhaps few surgeons would now apply this savage instrument without great hesitation. Between these extremes and that of all absence of surgical treatment, numerous methods used with partial success are figured in Hamilton's Fractures and Dislocations, but none of the methods have met with his unqualified approval, for plain reasons. By referring to the methods there described it will be seen that the attention of these gentlemen has been confined to the leg itself for means of counter-extension, and they have all failed for two reasons: Where circular bands are applied to the leg such ligation is produced as to necessitate, as Hamilton says, their removal in a short time if enough force is exerted to have any effect in reducing the deformity; and where plaster has been applied to the sides of the leg after Crandall's method, insufficient surface is obtained to prevent the plaster from slipping on making extension. Hamilton suggests that something might be done by extension from the perinæum, but gives no distinct plan. In the present case ligation is avoided below, at the ankle, by carrying the bandage from the toes upwards; and besides the vessels lie deeply at the malleoli, and there is little danger of ligation at this point. No ligation can take place above, for counter-extension is obtained by the natural weight of the patient's body, the foot of the bed being raised on blocks, as in the treatment of morbus coxæ.

To sum up the advantages for this form of treatment, they are: first, those in the modification of Smith's anterior splint. It allows a favorable and pleasant amount of motion in bed during confinement with the fracture, allowing the patient to sit up to eat, read his paper, and, what is vastly more important than either, to use the bed-pan with positively no inconvenience and absolutely no displacement of the fragments,

since the leg swings freely and traction is constant, even in motion. It permits the ready application of dressings to the member in compound injuries, ulcers of the leg, etc. It affords to the surgeon a constant view of the parts without disturbance of the apparatus. The elevation of the limb favors circulation. The necessary materials for the splint can be obtained in any community that can furnish a few pulleys, a stout bit of wire for the Smith's frame, and a couple of ropes. It is cool, comfortable, and cheap.

The swinging extension supplies constant traction, unlike the former methods, where traction was attempted by unyielding straps or screws; and the relaxation of the parts having taken place to accommodate themselves to the extension exerted, no further traction was made. Counter-extension is obtained without danger of ligation or any necessary surface for the application of plaster above the fracture, which, if high, would render its application completely useless. The traction, being upwards as well as outwards, tends to support the lower fragment and foot; therefore only a small amount of support is required to keep the foot in position; thus sore heels are avoided.

Inasmuch as none of the benefits claimed for the modification of Smith's splint are interfered with by the swinging extension used, none of its advantages are lost by this method of treatment. If ligation is avoided, one of Malgaigne's chief claims for his celebrated spear is not absent; and if the constant traction overcomes the powerful contraction of the muscles attached to the tendo Achillis, Laugier's division of this tendon and all such severe measures are unnecessary.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Sudden Death after Severe Burns. — At a recent meeting of the German naturalists in Munich, Ponfick[1] gives the results of a series of experiments made by himself and F. Schmidt with reference to the results of severe burns. The blood was found to be altered in all cases of severity, the red corpuscles separating into numerous small bits. These disappeared after a varying number of hours, with the seeming effect of exciting grave disturbance in several organs. A large portion of the apparently free hæmoglobine was eliminated through the kidneys, the parenchyma of which in the severe cases was evidently much inflamed, peculiarly colored casts being found in the urine, while the tubules were obstructed, and the epithelium in a state of fatty degen-

[1] Berliner klinische Wochenschrift, 1877, xlvi. 672.

eration. Another portion of the decomposed red corpuscles was taken up by the contractile cells of the spleen and bone-marrow, in which a gradual destruction was probably accomplished. The enlargement of these parts, their increased redness and moisture, offered gross evidence that the change mentioned was present.

It seems probable that some of the rapidly fatal cases and some of the severe symptoms in cases of recovery result from the extensive and sudden destruction of red blood corpuscles. The rapid suppression of urine, and a resulting uræmic poisoning, may also be of importance. From the evidence presented by these experiments Ponfick recommends transfusion as a rational therapeutical measure in cases of severe burns.

Tyrosine and its Presence in the Organism. — Huber[1] has taken the opportunity of studying chemically and physically the peculiar crystals found so abundantly in cases of leucæmia, and which have generally been spoken of as Charcot's crystals, from the fact that this observer first called attention to them.

Although they were present in great numbers in the spleen, Huber was unable to isolate them in sufficient numbers to study their chemical properties, and was therefore compelled to observe the micro-chemical changes taking place in them. He found that most of the reactions which arose were the same as those occurring when tyrosine was placed under like conditions.

When as pure a solution as possible of these crystals was made, there were subsequently precipitated forms resembling those of tyrosine, and presenting similar reactions, although the original crystalline form did not reappear. He therefore declares these peculiar crystals to be tyrosine, an idea previously suggested by Friedreich, though often disputed from the insufficiency of the evidence. With regard to the few tests which are not common, he thinks the discrepancy to be the probable result of differences in the quantity of material employed, the degree of concentration of the reagents used, and the necessary presence of foreign matter.

He therefore regards the rhombic plates, the "peculiar" crystals of Charcot, the leukosin of White, as a rare form of tyrosine, which may be easily recrystallized into the more common acicular form.

It has been found after death in various organs and tissues from cases of leucæmia, although it is most probably present in this disease during life.

It is much more commonly met with in the animal organism than has previously been known, both during life and after death, under normal as well as pathological conditions. It is to be regarded as a product of the decomposition of the albuminates, especially of cells, with the exception of red blood corpuscles. The two essential conditions for its ex-

[1] Archiv der Heilkunde, 1877, xviii. 485.

istence are the utmost possible exclusion of atmospheric air and the presence of a certain degree of moisture. An elevated temperature, certain substances acting specifically, and perhaps a sluggish circulation in the living body act as favoring conditions.

Pulmonary Œdema. — Under the direction of Cohnheim a series of experiments have been made by Dr. Welch,[1] of New York, for the purpose of obtaining information with regard to the causes of œdema of the lungs.

It has already been shown that hydræmic plethora alone is incapable of producing pulmonary œdema, and Welch endeavored to find another factor. After critically reviewing the various causes of œdema as given by Niemeyer and Hertz, he concludes that none of them are sufficiently explanatory. He then sought to learn from experiment whether pulmonary œdema might arise from passive congestion, which was brought about by the ligature of several branches of the aorta. These experiments furnished a positive result, although such a degree of arterial obstruction became necessary for this purpose as could scarcely occur in man.

In the attempts at causing œdema by ligature of the pulmonary veins it was found that all the veins from one lung might be tied and no œdema result. The lung became gorged with blood, but not œdematous. That œdema might arise it was necessary to tie also the veins from the upper and middle lobes of the other lung.

It was thus evident that the mechanical causes of œdema are much more severe than those occurring in the vast majority of cases of acute general dropsy of the lungs in man. It seemed probable that œdema might arise if a misproportion existed between the action of the two ventricles, in consequence of which the left ventricle should expel in a given time only a portion of the amount of blood which the right ventricle forced into the pulmonary artery, such as might arise from paralysis of the left ventricle. Such a paralysis was produced by compression of the walls of the ventricle, and pulmonary œdema followed. When the right ventricle was paralyzed no œdema ensued.

The immediate cause of pulmonary œdema is therefore considered to be a predominant weakness of the left ventricle. Favoring causes may be found in collateral hyperæmia of one lung when the other is hepatized, in passive congestion dependent upon mitral stenosis, and in hydræmia consequent to Bright's disease. But when these favoring causes are present the œdema does not always follow; another factor must also exist. If both sides of the heart become alike enfeebled during the death agony there is no œdema, although this event takes place when the left side is more rapidly and more completely paralyzed. The hypothetical nature of this explanation is fully recognized, and the possibility of its proof in the case of man is doubted.

[1] Virchow's Archiv, 1878, lxii. 375.

Absorption of Foreign Bodies by the Lungs. — Nothnagel[1] calls attention to the extreme rapidity of the absorption of blood from the respiratory surface. When the carotids and trachea of a rabbit are cut, death takes place within three minutes, and the lungs are found to contain a varying quantity of blood. The blood corpuscles are present in great quantity, not only in the bronchi, but also in the interstitial tissue. The possibility of the pulmonary hæmorrhage arising through spasmodic contraction of the vessels from loss of blood was eliminated by producing death through hæmorrhage, the trachea being left intact. In such cases the lungs were unaltered.

The rapidity with which foreign bodies are absorbed has already been noticed, and as it seems probable that the particles enter the interstitial tissue through the lymphatics, the observations of Nothnagel suggest how free the communication must be between the vessels and the respiratory surface. From the evident certainty of the free and rapid absorption of corpuscles, attention is called to the possibility of corpuscles as such reëntering the circulation in fibrinous pneumonia. The conditions are recognized as different, the corpuscles in this disease being for some time outside the vessels; still, the possibility referred to cannot be denied.

The relation of phthisis to hæmoptysis is also suggested by these observations. The well-known views of Niemeyer and other clinicians by whom the hæmoptysis was considered to be a cause of the phthisis were apparently favored by the experiments of Sommerbrodt, who found that under certain conditions pulmonary hæmorrhage might give rise to a catarrhal pneumonia. The evident extreme rapidity of the absorption of the blood in the observations of Nothnagel is considered as not favoring the above theory.

With reference to the absorption of soot by the lungs, the conclusions arrived at by Ruppert[2] may be mentioned. This writer endeavored to eliminate some of the complications resulting from the methods adopted by other experimenters, especially by Slavjansky. His investigations were directed towards ascertaining the alterations produced in the epithelium of the air-passages as well as in the subepithelial tissues, when air containing particles of soot was inhaled. He also sought for the channels by which the soot was received into the interstitial tissue, the force causing them to enter, and the condition they were in while entering, whether as free particles or inclosed within cells.

By causing the animals to inhale air laden with soot from an ordinary petroleum lamp from which the chimney was removed, he obviated the introduction of material capable of producing chemical changes. It was found that the particles were taken up in part by the alveolar epithe-

[1] Virchow's Archiv, 1877, lxxi. 414.
[2] Virchow's Archiv, 1878, lxxii. 14.

lium and in part entered the tissue. The former gave rise to such alterations in the cells that a subsequent desquamation of them took place.

In general the soot passed directly into the tissues, and only to a very limited extent by means of amœboid cells. After it had entered the tissues it was always found within certain portions of the lymphatic system. It could not be accurately determined through what channels this entrance took place, although it seemed most probable that such were present between the epithelial cells, and that the lymph-currents furnished the force by which the particles were carried along.

(To be concluded.)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

DECEMBER 29, 1877. Ninety members were present, DR. HOMANS, the president, in the chair.

Fracture of the Leg treated by Swinging Extension. — DR. W. D. ROBERTSON reported a case of fracture with riding fragments treated successfully by an apparatus devised by himself.[1]

DR. FIFIELD said that he had never seen before the application of a similar apparatus in the treatment of this class of fractures, and that Dr. Robertson was to be congratulated on the result. Richet, in a late publication, after condemning Malgaigne's apparatus and various others, had been able to offer nothing better than a plaster-of-Paris slipper with tapes to tie to the bedstead above. Dr. Robertson's appliance was regarded as better than any previously devised.

Pneumono-Dynamics. — DR. GARLAND replied at length to Dr. Hunt's criticism on his paper, read at a previous meeting, and made some interesting experiments before the society in support of his propositions. Dr. Garland's researches are embodied in his monograph on Pneumono-Dynamics, lately published.

DR. HUNT thought that the experiments of Dr. Garland did not substantiate his thesis, which was said by Dr. Hunt not to be in accordance with the laws of physics.

Dr. BOWDITCH said that the discussion had been extremely interesting. He thought that, although Dr. Garland's expressions might in some instances be open to question, the state of the fluid in cases of pleuritic effusion was in some way due to the elasticity of the lung; how, he did not know. Dr. Bowditch regarded change of the level of flatness on percussion as the *experimentum crucis* in determining cases of pleurisy with effusion. He had met but few cases in which a different line of flatness had not been observed on change of position if the examination were carefully made.

DR. ELLIS suggested that the usual mode of examining a patient to ascertain the variations of sound, on a change of position, is such as to confirm the

[1] See page 662 of this number.

general belief in such a change. The test is made as near the upper line of the effusion as possible, and the point very carefully maintained when the position varies. The space covered by the finger is less than an inch in width, within which Dr. Garland admitted that the sound might change. With the new light now thrown upon the subject more careful examinations should be made to ascertain the extent of the area over which the change is noticed. In this way conflicting views might perhaps be reconciled, and a certain ratio be shown to exist between the extent of the variation and the amount of the effusion.

Dr. Ellis mentioned the case of a man who had chronic valvular disease of the heart and an effusion into the right pleural cavity, the curve of flatness running from a point near the base of the chest at the spine through the lower angle of the scapula to about the fourth rib in front. The inferior edge of the liver was lower than usual. For several days the sinking in of the intercostal spaces during inspiration and the bulging during expiration were very marked. The chest was then tapped with the hope of affording some relief to the urgent dyspnœa, and about three pints of serum were drawn off without change in the movement of the intercostal muscles. The patient died suddenly about thirty-six hours after the operation. At the autopsy two pints more of yellow fluid were found in the right pleural cavity. The pleura was thickened, injected, and somewhat opaque. The lower part of the lung of this side was highly œdematous, the other lung normal. The pericardium contained four ounces of serum. The heart was nearly twice the normal size, owing to universal hypertrophy and dilatation. The left auricle contained a thrombus as large as a dried fig, extending from the appendix to the valve, mostly old, with some more recent coagulum at the lower end. The mitral valve admitted the tips of four fingers, the tricuspid five. The pulmonary artery was so thickened as to resemble the aorta; its valves were normal. The aortal valves were thickened, retracted, and insufficient. The aorta was extensively thickened, calcified, and atheromatous. Both sides of the heart held an abundance of freshly coagulated blood. The liver was of a purple color, contained an abundance of blood, and was moderately granular.

The question suggested by the case was, What was the cause of the play of the intercostal spaces if the lung were powerless? By what agency was this large quantity of fluid moved with every respiratory act? The details of the autopsy are given, as they may aid in the solution of the problem.

January 26, 1878. Sixty-three members were present, Dr. Calvin Ellis the vice-president, in the chair.

Eserine and Pilocarpine in Ulceration of the Cornea. — Dr. H. W. Williams said that he had found eserine, the alkaloid of calabar bean, of great value in the treatment of corneal ulcers, and had used it extensively for the past two years at the Boston City Hospital and in his private practice. The action was the opposite of atropine, contracting the pupil instead of dilating, thereby diminishing photophobia. Pilocarpine has the same effect, does not produce irritation of the conjunctiva or supra-orbital pain, and is perhaps preferable. Dr. Williams's observations were published at length in the Journal.[1]

[1] March 14, 1878.

Double Rupture of the Jejunum. — Dr. Chenery reported the case, which occurred in the practice of Dr. Hall, of Sheepscot Bridge, Maine.

At seven P. M., November 1, 1877, Dr. Hall was called to see a young man, nineteen years of age, a farmer, and found him suffering most severe pain over the whole abdomen. Pulse 130, weak and thready. Tongue slightly coated. Temperature 99° F. Face pale and anxious; pupils normal. Abdomen tense and somewhat tender on pressure, but the tenderness was not more marked in any particular spot. Urine scanty and very high-colored. Patient very thirsty, with occasional vomiting of mucus filled with dark, shreddy material like disintegrated blood. A natural passage from the bowels had taken place.

He was a remarkably large, healthy-looking man, with no taint of inherited disease, and had always enjoyed good health up to within six months of this time, when he began to suffer from occasional attacks of colic, which were relieved by simple carminatives and warm applicafions to the abdomen.

During the forenoon of November 1st he was engaged in plowing a rough piece of ground. About eleven o'clock he stepped into a hole and received a severe shock. He felt "something hurt him" in the bowels, but continued his work until noon. When he came in to dinner he felt sick, and could not eat anything. In the course of an hour there was severe pain in the abdomen and vomiting every few minutes. Pain and vomiting continued in spite of ordinary remedies, which were employed, till Dr. Hall was summoned in the evening. He immediately injected one fourth grain morphia sulph. subcutaneously, and followed it with the same dose in half an hour; this procured some relief. Hot cloths sprinkled with ol. terebinth. were applied to the abdomen, and a mixture containing creosotum was given for the vomiting. He took eight grains of morphia sulph. within the next twenty-four hours without any effect beyond a slight relief from the pain. The case was regarded as acute peritonitis from exposure to cold while he was overheated. Death took place about four and a half P. M., November 2d, or about twenty-nine hours after he felt the sudden pain, after stepping into the hole.

Autopsy twenty hours after death. Rigor mortis marked. No external signs of wounds or bruises. Abdomen extremely tense. On opening the abdominal cavity a large amount of very fœtid gas escaped. The intestines presented a peculiar appearance. In the umbilical region a mass of intestine as large as the two hands was seen, almost black, and very much swollen. This was found to be the lower portion of the jejunum, six feet in length, and the intestine and corresponding mesentery were so much congested that they seemed a perfect mass of clotted blood. At the lower end of this diseased portion was a rent through all the coats of the intestine as large as a copper cent piece. The edges were thin and presented the appearance of having been shaved off from the inner surface to the outer. These edges were ragged and easily torn, but could not be adjusted to each other. The opening appeared as if a piece had been detached. There was no pus or other sign of localized ulceration. Three feet above this was a second opening as large as the extremity of the little finger, and having precisely the same characters as the first. The intestine was filled with thick blood. The abdominal cavity contained two quarts of serum mixed with blood and the normal intestinal contents. Other organs healthy.

Dr. Hall considered the above case to be quite a singular one, and thought the attacks of colic to which the man was subject were owing to the ulceration which was going on for several months.

Dr. Chenery mentioned a case in his own practice where a similar ulceration took place through the walls of the large curvature of the stomach and resulted in a fatal peritonitis. In this case the ulcer was about an inch and a half across on the mucous surface, but grew narrower as it penetrated deeper, until it opened through the peritonæum by an aperture admitting the point of the little finger. There was no thickening or fibrinous exudation into the tissues about the ulcer. The patient was subject to considerable distress, which at times became very much aggravated and radiating, and would seem to shoot up to his head, causing him to be bewildered and insane, and during the two and a half years in which he was a sufferer with his stomach he was several times sent to the insane asylum. He assured me that the bewilderment sometimes passed off in a few hours or days, but that none of the attacks of insanity came on except after distress in his stomach. He was thirty-five years old.

A Rib fractured by Cough. — Dr. Chenery was hastily summoned October 15th to a woman who, in a fit of coughing, felt something give way in her side attended by a sharp report and a severe pain. She was twenty-three, was confined nine months after marriage, had scarlet fever one week afterwards, and lost her child by that disease, and after nineteen months of married life she was about to be confined again. For two or three weeks she had had a cough which was spasmodic in character, like whooping-cough, but she had had whooping-cough when a child. The conclusion, therefore, was that the cough arose from a real bronchitis, borrowing something of its nervous complication from the state she was in. On the morning of the accident she was not coughing very hard. She had just had a paroxysm, however, which was followed by an unusual spasm of the right side, at which time the rib gave way. Being the lower fixed rib, the cartilage was carried forward and held by the gravid uterus, thus favoring the action of the muscles. A broad strip of adhesive plaster was applied three inches to the left of the spine and carried well round upon the cartilages, and terminated there, while hypodermic injections of morphine were employed as near to the seat of injury as possible in order to ease the pain and check the cough. She was confined seven days later, and did well.

Dr. Chenery said that it was not common to meet with fracture of the ribs except from external force. The only other case occurring in his own practice which was not due to direct outward violence, was in an aged but active farmer. He was a tall man, and in exerting himself to pull up a juniper root it gave way, causing him to sit suddenly down upon a rock which was behind him. The costal muscles were doubtless in a tense condition at the time, and three ribs were broken. Although ribs do sometimes give way in the aged by the force of severe cough, it is unusual to meet with such an accident in young people; therefore Dr. Chenery thought that the cause was to be found in an altered condition of the ribs themselves, due to the pregnant state. When married, nineteen months before, this woman had a beautiful set of teeth, with no decay among them. A few months after conception she began

to experience trouble with her teeth. They ached, were tender, began to decay, and to crumble away easily, so that she was obliged to have some removed. On her second conception decay of the teeth took a new start, several others were extracted, and all were in such a state that the only alternative was their entire removal and replacement by an artificial set. She is now nursing her child, and though she has gained flesh does not regain strength in proportion. Her cough is gone. Dr. Chenery had asked a leading dentist if he found cases of rapid diseases of the teeth which he thought were due to gestation. He replied that he did, and that not unfrequently.

Dr. Read thought that teeth should not be extracted during pregnancy, from the possibility of waking up other symptoms.

Dr. Chenery said that he had withdrawn many teeth from patients in that condition, both with and without ether, and had never seen any ill effects.

Dr. T. B. Curtis spoke of strapping unilaterally for fractured ribs, saying that in France the straps were carried all round, and that he could see no probability of relieving the respiration, when the great mobility of the thoracic walls was considered, without confining the respiration to the diaphragm chiefly. Dr. Curtis mentioned a recent article in the Journal on Strapping the Affected Side in Pleurisy, and questioned the advantage of unilateral strapping as compared with the circular method.

Feigned Insanity. — Dr. Walter Channing read a paper on this subject, which is published in full.[1]

Dr. Bowditch asked Dr. Channing if insane persons did not admit or know that they were so.

Dr. Channing replied that it was rare.

In answer to an inquiry from Dr. A. N. Blodgett, whether acute mania and melancholia were never observed in the same patient, Dr. Channing said that these different conditions were seldom present at the same time, though they might in some cases alternate (*la folie circulaire*).

Dr. J. B. Ayer mentioned a case of supposed melancholia, lately under observation, which had broken out into an attack of acute mania. On removal to the asylum the patient was regarded as melancholic, and had continued so.

Feigned Insanity. — Dr. Fisher also reported a case of feigned insanity occurring in 1864 at the Suffolk County House of Correction, the hospital department being under the charge of the physicians of the Boston Lunatic Hospital. The prisoner was a young woman named Patten, just sentenced for two years for larceny. She was a fine-looking, healthy girl, about twenty-five years old, and was brought into the hospital for refusing to work and for "acting queerly" in the shop. She refused to converse, and was put in a large cell with a good bed. Her conduct at first resembled somewhat that of a mild case of acute mania. She sang and talked at random, and disarranged her bed and furniture. Was overheard to say, "I went to hell last night, and walked all round the gravel walks." Also sang such impromptu lines as "Three black cats dressed in white, Three white cats dressed in gray," etc. After a second observation and a careful attention to her attempts at incoherence, it was the decided opinion of Dr. Walker and Dr. Fisher that she was feigning. She was told so, and warned against the

[1] See page 655.

consequences of persisting in her attempt. The next day she had ceased to talk and sing, and had assumed a demented appearance. Her hair was disheveled, and her face stained with blood, apparently coming from the nose, mouth, and ears. Her hair was long and beautiful, and had probably been her pride, as she was evidently neat, sober, and intelligent, and was a skillful shop-lifter. Her hair was put in order, and she was told that if disarranged on the next visit it would be cut off. The next day it was in tolerable order, but the day after, being disheveled, it was cut off. She was so angry at this that her conduct became more and more aggravated. She tore up her bedding, and it was removed. She broke her furniture, and it was taken away. Her diet was simply gruel, made purposely very thin; but she refused it, and it was invariably found in her cup untouched. She soon began to destroy her clothing, which was removed, and none supplied in its place. Being now quite naked, she was put in a cell with a darkened door, and given a blanket and some straw. These were soon destroyed or thrown out at a small window. Her cell and person were soiled with blood and excrement, and she continued to refuse her gruel, though it is probable that after drinking part of it she made up the loss by urinating in the tin cup.

This state of things lasted just one month, until she had gained the sympathy of all the prison officials, who are more often inclined to doubt the presence of actual insanity than to see it when it does not exist. It was only by sheer obstinacy that the doctors were able to continue their plan of treatment. They were sustained by various slight signs of sanity, one of which was very striking; although stark naked as well as seemingly stark mad, she never exposed herself fully to their gaze on the daily visit, but turned her back or crouched in a corner.

At the beginning of the fifth week she was found crying. The next day she spoke in a calm and natural tone, saying that she was ready to confess. She admitted that she had been feigning for the purpose of getting transferred to an insane hospital. After full diet for two or three days she went to the shop, and worked faithfully till the expiration of her sentence.

Dr. Bowditch inquired the reasons for the diagnosis of feigned insanity, and whether an attempt to keep out of view, when nude, on the part of a patient, would exclude the idea of insanity.

Dr. Fisher replied that among other signs of simulation were the perfect general health, natural pulse, and clumsy attempt at incoherence; also that an insane person, as a rule, would not mind exposing herself.

Dr. C. F. Folsom said that he had seen a number of such cases, and that the general appearance and symptoms must be relied on for a diagnosis. Usually the face and conduct indicated the condition. He mentioned a case of feigned catalepsy in which the patient lay in bed for thirty-six hours without food and water, which were within his reach all the time.

In answer to a question by Dr. Chenery, Dr. Fisher said that his patient lost flesh, but that at the end of her attempt she was perfectly well. The disappearance of the symptoms of insanity was not gradual, and there was no hysteria.

(To be concluded.)

ADMISSION OF WOMEN TO THE STATE SOCIETY.

A CIRCULAR is at present being distributed among the members of the Massachusetts Medical Society by a committee from the Middlesex South District, in which members are asked to answer "yes" or "no" to each of the following questions: —

"A. Are you in favor of admitting women, thoroughly educated in medicine and surgery, who have passed a satisfactory examination before the board of censors, to full fellowship in the Massachusetts Medical Society?

"B. Are you in favor of admitting women to examination by the board of censors, such examination being conducted in accordance with by-laws I. and II., with the understanding that, if it prove satisfactory, a certificate shall be given to that effect, signed by the board of censors, which certificate shall make them eligible to consultation, and shall give them such other rights and privileges as the society may, from time to time, decide to grant them?"

When this matter was first brought before the district society in October last we took occasion to express our opinion that the time for action had not arrived; that respectable female practitioners did not as yet constitute a sufficiently large class, and there were none of such exceptional attainments as to demand notice on their own account. Under these circumstances it could hardly be expected that we could give an affirmative answer to either of the above interrogatories; but apart from the question of admitting women to the society, viewed in the abstract, we would call attention to some of the difficulties which may attend their recognition as members under our present system of examinations. The varied and uncertain measures to which such candidates would be obliged to resort to obtain their education would render a careful scrutiny of qualifications exceedingly important both for their own and the society's future welfare. This under our present methods would scarcely be attainable. The standard of excellence required for admission varies in each district according to the views held upon this subject by each board of censors. This has always seemed to us a weak point in the organization of the society. The fortunes of the aspiring ladies would inevitably vary accordingly. In those districts where "women sympathizers" abounded the gallantry of the board might endanger their qualifications as careful examiners, while on the other hand well-educated women might be driven from certain portions of the State by those whose prejudices had got the better of their sense of justice. In other words, we have no guarantee that under the present system most undesirable individuals, aided by the prestige of a popular movement, might not find their way into the society, or that justice would be dealt out equally to all.

If the presence of a considerable body of well-educated female physicians in this neighborhood had become an established fact, should we necessarily be called upon as a state society to receive them into our ranks? We think not. We can see no advantages accruing to the advancement of medicine in this State by the association of the sexes in such a manner as this would imply. There will be time enough later to consider what form of recognition our physicians as a body shall give to the new-comers without rushing into an experiment from which it will be impossible to recede should the issue prove a fail-

ure. In the mean time the councilors may well occupy their time with many important questions of the day, such as raising the standard of medical education, the regulation of great abuses in the practice of medicine by males, and, last but not least, the advancement of medical science.

Without therefore ranking ourselves among the irreconcilables, we may venture to hope that the matter will be laid upon the table by the councilors at their coming meeting.

MEDICAL NOTES.

— The senate of Pennsylvania on Friday last passed the house bill, making an appropriation of one hundred thousand dollars to the Jefferson Medical College Hospital. This is the second appropriation of this amount to Jefferson. The University of Pennsylvania also tried for another one hundred thousand dollars at the same time, but as they have already had two appropriations amounting to two hundred and fifty thousand dollars, the house refused to pass the bill.

— The Collége de France will select a successor to Claude Bernard on May 26th. Professor Charcot is said to have a good chance of being appointed. It is objected to Dr. Brown-Séquard by *Le Progrès Médical* that he is a "*professeur voyageur*," having been appointed professor in no less than five different universities, the last of which was Geneva. We learn, however, that Professors Marey, Balbiani, and Ranvier, of the faculty of the college, have decided to urge their colleagues to vote for Dr. Brown-Séquard, and that their views will probably have great weight.

— The surgeon-general of the United States Marine Hospital service, as a preliminary to publishing the Weekly Abstracts of the Consular Sanitary reports and other Pertinent Information, required by the new quarantine act, heretofore noticed in these columns, has issued a circular to "*state and municipal boards of health and port sanitary authorities in the United States*, wherein such organizations are requested to furnish him with their "official title and particular address," and also desires them to send in exchange for his own copies of their weekly reports. (Vide Circular No. 5, United States Marine Hospital service, series 1878.)

— The *Journal de Médecine* says that instruments of hard rubber, which are infrequently used, and which therefore become brittle and liable to break, may be restored to their original tenacity and elasticity by plunging them into lukewarm water, the temperature of which should then be gradually raised until the desired result has been attained.

— The *Bulletin de l'Académie de Médecine de Belgique* reports the case of a female child who was born with a vigorous growth of hair upon the pubes, who began to menstruate at the age of four years, and who, violated when eight years old by a man aged thirty-two years, gave birth, three months later, to a hydatid mole accompanied by a fœtus. She completely recovered her health.

— Among the rarities presented at the March meeting of the London Pathological Society was a calculus containing indigo. According to the president, Dr. Murchison, it was the first indigo calculus on record.

— Dr. J. Milner Fothergill recently restored to life a woman already *in extremis* from the effects of a large dose of laudanum by injecting hypodermically a full grain of the sulphate of atropia, the largest medical dose yet recorded.

— In a communication to the French Academy, Cyon claims that the eighth pair of cerebral nerves contains two nerves of entirely distinct senses, the auditory and the nerve of space (*raumnerf*). He considers the latter the source of all our ideas of extension, and of the three dimensions of space.

— Dr. Wachsmuth, of Berlin, asserts that much of the danger from the administration of chloroform may be averted by adding a small quantity (twenty per cent.) of the oil of turpentine, which he says stimulates the lungs and thus protects them against the great enemy of chloroform narcosis, — pulmonary paralysis. We trust that nobody will attempt to prove the assertion.

— Mr. Edward Nettleship has been elected ophthalmic surgeon to St. Thomas's Hospital *vice* Liebreich, resigned.

— Dr. Guyot, of Paris, after careful calculation, estimates that during sixty years of life the heart pulsates 2,269,800,000 times; during a life of eighty years, 3,007,040,000 times; in one hundred years there are 3,792,550,000 pulsations.

— Thymol, a homologue of phenol, and extracted from the essential oil of thyme, of the American horse-radish, and of the ptychotis ajowan, has been used as an antiseptic by German surgeons for more than two years, and is now being introduced into America. Discovered in 1709 by Caspar Neumann, it was first used to deodorize unhealthy wounds in 1868 by Bouillon and Baquet, of Lille. Under certain circumstances its antiseptic qualities are said to be from four to twenty-five times as powerful as those of carbolic acid. Thymol is crystalline, nearly colorless, has a pleasant odor and an aromatic, burning taste; dissolves in twelve hundred parts of water, one part of rectified spirit, and one hundred and twenty parts of glycerine. Its action as a poison is only one tenth that of carbolic acid, and it does not irritate the skin. These qualities together with its great antiseptic power indicate its substitution for carbolic acid in the Lister treatment of wounds. Professor Volkmann, of Halle, has used it in preference and with great success. It has also been used for various skin diseases by Dr. R. Crocker, of London. For further details see *New Remedies* for April 16th and Mr. Gerrard's paper in the *Pharmaceutical Journal*. As an ointment Crocker uses five to thirty grains of thymol to one ounce of vaseline; as a lotion, thymol grs. v., spirit. rectif. et glycerin. āā ℥i. aquæ q. s. ad ℥viij. Since one part of thymol will do as much antiseptic work as twenty-five parts of carbolic acid, the former is really the cheaper of the two, although in equal bulk it costs five times as much as the latter.

— The supreme court of Alabama has decided that a doctor may be summoned as a witness, and be made to give a medical opinion without compensation.

— French physicians consider the extract of pimentum a valuable revulsive. It is less volatile than mustard, less irritating than antimony and croton-oil; begins to act in from ten to thirty minutes, causing heat, a slight tingling and redness, which increase for about three hours and then remain stationary.

— The *Medical Examiner* says that thirty-eight females are studying for the medical profession at the universities of Bonn and Zürich.

— The meeting of the Fairfield County (Conn.) Medical Society was rendered especially interesting by a rather novel case in medical ethics. The wife of a well-known practitioner several years since started in practice as a homœopath, and as a natural consequence matters became rather "mixed" in the way of consultations and the like. The case was fairly tried in the presence of the accused, and after a protracted debate and balloting resulted in a vote for expulsion, which must be ratified by the state society.

— Mr. Augustus Sala, in the *London Illustrated News*, says: "It strikes me very forcibly that, so far from being 'fleeced' by the general practitioner, we are often apt (unconsciously, of course) to fleece him by cruelly deferring the payment of his bill. Why should we make him wait six months or a year for his due? He has his rent and taxes, his butcher and baker to pay, as we have, and very frequently his carriage to keep. Is he to eat lint or stethoscopes, or sustain nature by the hypodermic injection of morphia or the external exhibition of collodion? We should pay our doctors promptly, and then we should know what they are charging us for."

— Dr. Tappeiner has proved by experiments in Buhl's laboratory at Monaco that phthisis is contagious. Mixing the sputa of a consumptive with water, he caused five dogs to inhale the same in the form of spray. Two of the animals were also obliged to swallow a portion. After a lapse of six weeks the dogs were killed. They presented a general miliary tuberculosis of lungs, liver, and kidneys, and, in the two which had swallowed the matter also, of the digestive apparatus. Carmine, which had been mixed with the inhaled liquid, showed that it had penetrated into the pulmonary cells. Professor Buhl established these results by making the microscopical examination. It is suggested that these experiments are an indication that the air of apartments occupied by phthisical persons, and not well ventilated, may become dangerous to healthy persons living in the same quarters. See the *Canada Lancet* for May 1st.

— Statistics show that mortality among the Germans of New York city is thirty-eight per cent. less than that of any other class of citizens, while their increase by births is larger.

— Nashville, Tenn., has a medical college for the colored race.

— At a meeting of the Illinois State Board of Health, held at Cairo, November 15, 1877, the following resolutions were unanimously adopted: —

Resolved, That on and after July 1, 1878, the board will not consider any medical school in good standing which holds two graduating courses in one year.

Resolved, That on and after July 1, 1878, the board will not recognize the diplomas of any medical school which does not require of its candidates for graduation the actual attendance upon at least two full courses of lectures, with an interval of six months or more.

LETTER FROM PHILADELPHIA.

Expert Testimony. — Legal Sacredness of Professional Confidences. — Female Physicians and the Medical Societies. — The Commercial Value of an Alumnus.

Mr. Editor, — Physicians here have two standing grievances with our courts of law. The first is the prevailing practice of requiring expert testimony from a witness who happens to be a medical practitioner, regardless of the fact that he may not be qualified to give expert testimony, and equally oblivious of the certainty that if it is valuable nothing will be given as an acknowledgment in return. In either case the tendency is the same, — to lower the value of medical testimony and the dignity of the profession. The other grievance is one that affects the physician's honor rather than his honorarium, and events have occurred recently to bring it prominently before the notice of the profession. I refer to the right assumed by some courts of insisting that a physician shall publicly divulge private affairs which had been confided in order to enable him to prescribe intelligently for his patient. The fact that a law protecting physicians from this violation of sacred confidence has been adopted by other States, its wisdom having now been tested by an experience of fifty years in the neighboring State of New York, has finally induced our medical societies to move in the matter. A concurrent resolution was passed recently by the Philadelphia County Medical Society, the College of Physicians, and the Obstetrical Society, petitioning the legislature for the passage of an act providing that —

"No person duly authorized to practice physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon."

This act has been duly presented and referred.

The Obstetrical Society is now struggling with the question of admitting lady members, the application of a prominent female practitioner having dropped the bomb-shell into the camp. Since the University of Pennsylvania admitted female students to one of its departments, and since the recent visit of Mrs. President Hayes to our Women's Medical College, the ladies are justly elated by their twofold official recognition, and feel encouraged to assert and demand their rights, "which, knowing, they dare maintain," and to insist that all the barriers shall be broken down that separate them from the modest medical man, who apparently is so deficient in gallantry as to prefer solitude or the house-top to their company.

Although it has been publicly announced that female students attend the auxiliary medical course at the University, they are for the present refused admission to certain of the lectures. The fact, however, that they are accepted as students, and as such are permitted to attend regularly in the medical department, is a substantial victory for their advocates. Having carried the outposts, they have only to wait, and the surrender at discretion will be all that remains for their opponents.

In regard to the medical societies, the ground taken by some members is that they have no right to exclude any duly qualified practitioner who is in good standing; that the societies belong to the profession and not to individuals. It is evident that these societies have a double character: they are designed for the advancement of science and for the promotion of social intercourse and good feeling in the profession. As a scientific body, it would seem that a medical society could not consistently exclude any one on the score of sex, — mind has no sex, — but as a social body it can decide on the personal qualifications of applicants, and reject them, if it choose, on purely personal grounds. Opinions on this question will vary just in proportion with the prominence given to the scientific or to the social element in each member's estimate of the function of the medical society.

At the County Medical Society, recently, a case of delirium tremens from the prolonged use of chloral hydrate, occurring under the notice of Professor Da Costa, was reported by Dr. F. Woodbury. The patient, a man of nervous temperament, after taking, on his own responsibility, from sixty to ninety grains per diem for nearly four months, discontinued it abruptly at the solicitation of his friends. An attack of delirium tremens supervened, characterized by hallucinations, great muscular weakness, but principally by continual efforts to leave the bed and walk about the room. He recovered in a few days with the aid of morphia, food, and stimulants. The general opinion expressed during the discussion among the members was that chloral, if pure, may be continued for a long time under medical supervision without causing any bad effects whatever in the majority of cases.

Dr. Charles I. Turnbull, of this city, with the author's permission, has translated Professor Arlt's work on Injuries of the Eye and their Medico-Legal Aspect. It was written for the general profession, and not solely for the specialist, and has its scope well presented in the title. Dr. Turnbull has furnished a translation unusually free from traces of the German idiom, and it is printed with clear type on good paper.[1]

In the number of the JOURNAL for April 25, 1878, was published the total number of graduates of certain medical colleges in March last, showing that seventeen colleges graduated one thousand three hundred and forty-one alumni. The old question as to what will become of them all is perhaps in a measure solved by the following, which recently appeared among the commercial items in one of our evening papers: "Room for about 500 barrels alumni has been secured by a Philadelphia house for shipment to Bremen for Baltimore, per Germantown bark Jesonda, at 27s. 6d. per ton." The average and aggregate value of alumni seems to have become at last definitely ascertained, and communities may now improve the opportunity of disposing of any superfluous specimens at a very reasonable rate.

PHILADELPHIA, *May* 3, 1878.

[1] Philadelphia: Published by Claxton, Remsen, and Haffelfinger. 1878. 8vo, pp. 198. Cloth.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending May 11, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-'77.
New York.	1,093,171	455	21.64	23.42	28.71
Philadelphia.	876,118	297	17.63	18.80	21.54
Brooklyn.	549,438	149	13.34	21.51	25.50
Chicago.	460,000	110	12.43	17.83	22.39
Boston.	375,476	109	15.09	20.10	24.34
Providence.	100,000	28	14.56	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	13	12.31	14.07	22.30
Cambridge.	53,547	14	13.59	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	6	8.78	20.42	19.67
Springfield.	33,981	8	12.25	16.04	19.77
Salem.	27,140	4	7.66	20.38	21.15

SUFFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held at the rooms, 36 Temple Place, on Saurday evening, May 25th, at seven and a half o'clock. The following papers and cases will be read: —

Dr. H. O. Marcy, The Radical Cure of Hernia by the Antiseptic Use of the Carbolized Catgut Ligature.

Dr. E. W. Cushing, Sun Spots and Epidemics.

Dr. B. J. Jeffries, Relative Frequency of Color-Blindness in Males and Females. Tests for Color-Blindness.

Tea, etc., at 9 o'clock.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY. — The annual meeting of the society was held in Stoneham, May 8, 1878. The following officers were elected: President, Francis F. Brown. Vice-President, Daniel W. Wight. Secretary, J. Richmond Barss. Treasurer and Librarian, John O. Dow. Auditor, F. F. Brown. Reporter, F. Winsor. Councilors, W. S. Brown, J. O. Dow, F. Winsor. Censors, S. W. Abbott, A. H. Cowdrey, Charles Jordan, W. F. Stevens, Jr., D. W. Wight. Commissioner on Trials, F. Winsor. Councilor for Nominating Committee, F. Winsor. J. RICHMOND BARSS, *Secretary.*

CONNECTICUT MEDICAL SOCIETY. — The eighty-seventh annual convention of the society will be held at New Haven, May 22 and 23, 1878. Officers: President, Robert Hubbard, M. D. Vice-President, C. M. Carleton, M. D. Treasurer, F. D. Edgerton, M. D. Secretary, C. W. Chamberlain, M. D. Committee on Matters of Professional Interest, W. A. M. Wainwright, M. D., H. W. Buel, M. D., Ashbel Woodward, M. D.

The following papers well be read: Insanity in its Relation to Law, Dr. A. M. Shew. Report of Committee on Matters of Professional Interest, Dr. Wainwright. Report of Committee on State Board of Health and on Vital Statistics. The Ætiology and Treatment of Puerperal Convulsions, Dr. L. S. Paddock. Antiseptic Surgery, Dr. G. P. Davis. Uterine Contractions as a Hæmostatic, Dr. E. P. Swasey. A Review of the Surgical Literature of the Year, Dr. W. A. M. Wainwright. Nitric Acid in Uterine Hæmorrhage, Dr. S. G. Hubbard. The Treatment of Thecal Abscess and Carbuncle, Dr. B. F. Harrison. Cardiac Thrombosis, Dr. I. W. Lyon. The Stimulant Treatment of Phlyctenular Ophthalmia, Dr. W. T. Bacon. Cough from Recurrent Laryngeal Congestion, Dr. C. W. Chamberlain. Hemiplegia Alternans, Dr. W. C. Burke. Extra-Uterine Pregnancy, Dr. E. F. Coates.

Annual dinner at three P. M.

C. W. CHAMBERLAIN, M. D., *Secretary*, Hartford, Conn.